Second Embodiment

The components of the second embodiment and the processing operations performed by the components are the same as those in the first embodiment, with the exception that view parameter calculator 44 and the processing at step S4-40 is omitted, and each calibration pattern in calibration pattern store 37 is defined in a coordinate system in a different way to that shown in Figure 3 in the first embodiment. In addition, in steps S8-6 to S8-10 and step S9-6, the first image is generated in accordance with a predetermined camera and not in accordance with generated viewing parameters. These differences will be explained in detail below.

Many standards, including OpenGL, define a default camera in accordance with which a 3D computer model is to be rendered if no other viewing camera is defined. Accordingly, in the second embodiment, each calibration pattern stored in calibration pattern store 37 is defined in a coordinate system taking into account the default camera such that the default camera will produce an image of the subject object looking towards the front marker

170 on the photographic mat and consequently towards the part of the subject object which the user at customer processing apparatus 2,4 positions so as to face the front marker 170.

More particularly, Figure 10 illustrates how the features in the calibration pattern shown in Figure 2 are defined in a coordinate system in the second embodiment for the default camera in the OpenGL standard. Other calibration patterns in calibration pattern store 37 are defined in a corresponding way.

The default camera in the OpenGL standard is positioned at the origin of a cartesian x, y, x coordinate system with the positive y-axis straight up and the camera looking down the negative z-axis.

Accordingly, referring to Figure 10, in the second embodiment, each calibration pattern stored in calibration pattern store 37 is defined so that the centre of the pattern (which defines the approximate position on the photographic mat at which the user will place the centre of the base of the subject object 210 for imaging) is at a coordinate (0.0, -1.0, -20.0) and the front edge of the front marker 170 is at a coordinate

(0, -1.0, -19.0) (since the radius of the calibration pattern is one unit as in the first embodiment). In this way, the front marker 170 is aligned with the z-axis of the coordinate system and the plane in which the calibration pattern lies is a distance of one unit below the z-axis. The distance of one unit below the z-axis is set in this embodiment because it has been found in practice that the typical height of a subject object 210 placed on the photographic mat for imaging is twice the radius of the calibration pattern on the photographic mat (that is, the height is typically two units in the coordinate system).

Accordingly, when a subject object 210 is placed on the photographic mat for imaging, the negative z-axis of the coordinate system (which defines the view direction of the viewing camera) will intersect the approximate centre of the subject object 210. In addition, the part of the subject object 210 arranged by the user to face the front marker 170 will appear in each image generated using the default viewing camera.

Referring again to Figure 8, in the second embodiment, at steps S8-6 to S8-10, rendering instructions for the first image are not generated and sent to the third-party